

Pest Update (September 29, 2010)

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Note: samples containing living tissue may only be accepted from South Dakota. Please do not send samples of dying plants or insect from other states. If you live outside of South Dakota and have a question, please send a digital picture of the pest or problem instead. **Walnut samples may not be sent in from any location – please provide a picture instead.**

Available on the net at:

<http://sdda.sd.gov/Forestry/Educational-Information/PestAlert-Archives.aspx>

Any treatment recommendations, including those identifying specific pesticides, are for the convenience of the reader. Pesticides mentioned in this publication are generally those that are most commonly available to the public in South Dakota and the inclusion of a product shall not be taken as an endorsement or the exclusion a criticism regarding effectiveness. Please read and follow all label instructions and the label is the final authority for a product's use on a particular pest or plant. Products requiring a commercial pesticide license are occasionally mentioned if there are limited options available. These products will be identified as such but it is the reader's responsibility to determine if they can legally apply any product identified in this publication.

| In this issue | pg |
|--|----|
| Current concerns | |
| Mountain pine beetle..... | 2 |
| Information you can use | |
| Autumn foliage color..... | 3 |
| E-sample | |
| Woolly oak gall..... | 4 |
| Subterranean termites..... | 4 |
| Samples received | |
| Dewey County (transplanted spruce dying)..... | 4 |
| Dewey County (transplanted lindens showing dieback)..... | 4 |
| Edmunds County (dying arborvitae)..... | 5 |
| Hutchinson County (cytospora canker on spruce)..... | 5 |
| Walworth County (spruce problems)..... | 6 |
| Yankton County (redheaded ash borer)..... | 6 |

Current concerns

Mountain pine beetle is continuing to gather attention in the Black Hills.

While the current epidemic began in 1997, the widespread pine mortality due to this insect did not become noticeable too much of the public until the past year or two. Now pockets of red or gray trees are easily seen from almost any highway as you drive through the Black Hills.



Mountain pine beetles problems often will begin in a few trees, typically ones that are larger than seven or eight inches. These trees are killed by the attack and the following summer new beetles emerge from these trees to attack surrounding trees. Mountain pine

beetle is an opportunistic insect and if available hosts are nearby, they typically will stay within 300 feet or so from their emergent location. This means that these small pockets of ten or so infested trees can quickly expand to become large pockets of hundreds of infested trees in a few years.



The top picture shows the view of Harney Peak from Little Devils Tower in the fall of 2004. At that time there were only a few, small pockets of ponderosa pines infested by the beetle. The larger lower picture shows the same view last week and now there is only a few live ponderosa pines (the green conifers in the picture are spruce), almost the entire hillside, as well as much of the Black Elk Wilderness Area, is covered with red to gray ponderosa pines.

Now is the time to begin inspecting pine stands for recent attacks by the mountain pine beetle. Trees that were attacked this summer will still have green canopies but the trunks of the trees will be covered with pitch tubes. These tubes mark the location of where the beetles entered the tree. The tree produces



the pitch as a means to “pitch out” the beetles and it is possible to find trees with only a few pitch tubes along the trunk and find a beetle stuck in the pitch. These are the unsuccessful attacks. Unfortunately there are far more trees that show successful attacks as evident by the numerous pitch tubes along the trunks though sometimes the tubes are very small and only some sawdust is visible.

If these recently infested trees are removed from the stand now, the developing young bark beetles inside will not be able to emerge next summer and continue to attack adjacent trees. Infested trees can be treated in a number of ways. Harvested for the wood or treated to prevent or reduce the number of beetles that

emerge. These treatment options will be addressed further in the next Update.

Information you can use

Autumn foliage color

We have entered the autumn color period so just a couple of items relating to this seasonal phenomenon. First the color changes begin in response to the shortening days and the cooler temperatures. The leaves stop producing chlorophyll (the green color) and some trees species at the same time begin producing anthocyanin (the red-purple colors). Yellows (carotene and xanthophylls pigments) also begin to appear, not because the tree is beginning to produce them – in fact they are always present – but as chlorophyll disintegrates these pigments are unmasked.



Trees noted for their brilliant red fall color includes red and sugar maples (as well as the freeman maples as the picture of the Sienna Glen maple shows), serviceberry, sumac and red oaks. Trees that have bright yellow fall color include ginkgo, quaking aspen and sometimes even honey locust as well as ‘Harvest gold’ Mongolian linden. Catalpa, sycamore, black locust and even green ash have little color change.

Fall color is best when we have combination of dry, sunny and cool weather during autumn. Rainy, cloudy weather will reduce the intensity of fall color. If we are now entering a dry period in eastern South Dakota we might see some nice fall color.

Pines and spruce, as mentioned in the last Update, also have an autumn color change. At this time of year pines have their three-year old needles turn yellow and drop, with spruce it is their five to seven year old needles. This color change and shedding is sometimes greeted with alarm by homeowners who believe their tree is dying when it is just a normal seasonal process.

E-samples



I am still receiving pictures of the woolly oak gall. Apparently it is all over the state this year. The one-inch or less woolly “growth” on the bur oak leaves is due to the feeding activity of the larvae of a small cynipid wasp. This wasp does not sting people nor does the gall really harm the plant so it is more of a curiosity than a problem. There are no effective controls as the life cycle of these gall forming insects is poorly understood.



I received this very interesting picture of a subterranean termite from Aaron, the city forester in Aberdeen. There are several types of termites, dampwood, drywood and subterranean and the subterranean are the only ones that are commonly found in South Dakota. Even the subterranean termite is far less common in our state than the states to the east and south. The subterranean termite builds its nests in the soil or root flare of wet, rotting trees and construct tubes to allow them to move to wood in structures and trees. The

mud tubes are about $\frac{1}{4}$ to 1 inch wide and can be found along or in cracks of a home's concrete foundation connecting the soil with the wood framing.

The subterranean termite can be a very destructive insect if it reaches a home foundation and often the damage goes undetected until too late. Usually the exterior surface of wood is not damaged though it may be hollowed out by the activity of the insects. Damaged wood sounds hollow and tapping with a screwdriver can be a means of detection though homeowners concerned about termites should contact a professional to survey rather than rely on their own efforts.

Termites can be separated from ants through two characteristics. Termites will have beaded antennae while the antennae of an ant are elbowed. Ants have a constricted waist while termites are broad.

Samples received

Dewey County

Several spruce planted with a tree spade this spring have died (about 3 of 25). What might be the problem?

The shoot growth this spring was “bottlebrush” meaning lots of short needles on a stunted shoot tip. This is a common symptom with transplant shock and most likely the trees died from the stress associated with the move. I do not know the size of the spade, hopefully at least 44-inch, but too small of a spade might have contributed to the decline. I suspect the deciduous trees are suffering from the same problem.

There is not much that can be done for transplant shock at this time other than water (if you are not receiving too much water as we are in Brookings) and apply a light (2 inch) mulch around the trees out to the edge of the branches.

Dewey County

These linden trees were planted in the spring and now have some branch tips dying and the leaves are discolored.

This is linden leaf blotch. The blotches begin to occur in late summer, often as small specks that expand to larger blotches. A characteristic of the dark brown blotches is their feathery margins. The disease often results in complete defoliation of the tree by mid-September. There really is no control other than remove and destroy the fallen leaves, often impractical, and if the spring is relatively dry the disease is often minor and only results in some leaf discoloration. The dieback is probably related to transplanting. It will be interesting to see how well these trees perform in Timber Lake. They are not considered that hardy to West River outside of the Black Hills but I have seen a number of them growing in Murdo so I'll keep my fingers crossed.

Edmunds County
Roscoe?

What is this arborvitae declining in

Probably because it is in Roscoe. The Emerald Green arborvitae (*Thuja occidentalis* ‘Smaragd’) is rated as cold hardy for zone 3, meaning it should perform well in the state. However, our winter injury occurs more in late fall and late winter than midwinter due to temperature fluctuations. I suggest trying Rushmore arborvitae. It was developed in South Dakota and is more adaptable to our wide temperature extremes.

Hutchinson County

A gentleman wants to know why his spruce is dying and what he can do to save it.

I can only go by what was in the sample but the branches submitted had cytospora canker, a branch and trunk disease that often is associated with the decline and death of the lower branches and sometimes the entire tree. If he looks into the interior of the tree he might notice small patches of bluish-white resin, almost looks like bird droppings, on the branches. This is a sign of the disease. Unfortunately there are no effective controls for the disease, particularly

for mature trees, and my only recommendation is to remove dead and dying branches to help slow the spread of the disease within the tree.

Walworth County

There are some dead branches on inside of two older spruce. This is just normal? Also have a Japanese tree that is having some leaf discoloration this week.

The loss of interior branches is normal on a mature spruce, any older than about 20 years. However, I did find some spruce needleminer and these insects cut off the needles and web them into a nest. I'd suggest just running a high pressure stream of water through the lower canopy to dislodge the insects and then rake up and destroy all the fallen needles and other debris.

The "Japanese" tree is a pagoda dogwood (*Cornus alternifolia*) an attractive small tree noted for its horizontal branching structure. It also has a reddish fall color and that was beginning to appear on the leaves. The discoloration on the leaves (other than the red of the fall color) is due to a leaf disease, rather minor, so no control needed. I will be surprised, however, if it survives long in the Selby area. The tree has limited winter hardiness and the stems that are stressed by the cold are vulnerable to a number of canker disease, including the golden canker previously discussed in an Update, so do not expect this tree to live for many years in that location.

Yankton County

What is chewing on this ash?

Thank you for sending a portion of the branch showing the galleries as well as the larvae. This is the redheaded ash borer, a common borer of dying (or dead) ash. It creates serpentine galleries on the sapwood so is sometimes confused with the emerald ash borer. The larvae are quite different so your sample made for an easy identification. There are no controls for the insect, it is more an indication that the tree is dying rather than being the reason the tree is dying.